

A Review of the 2006 Water Year in Colorado

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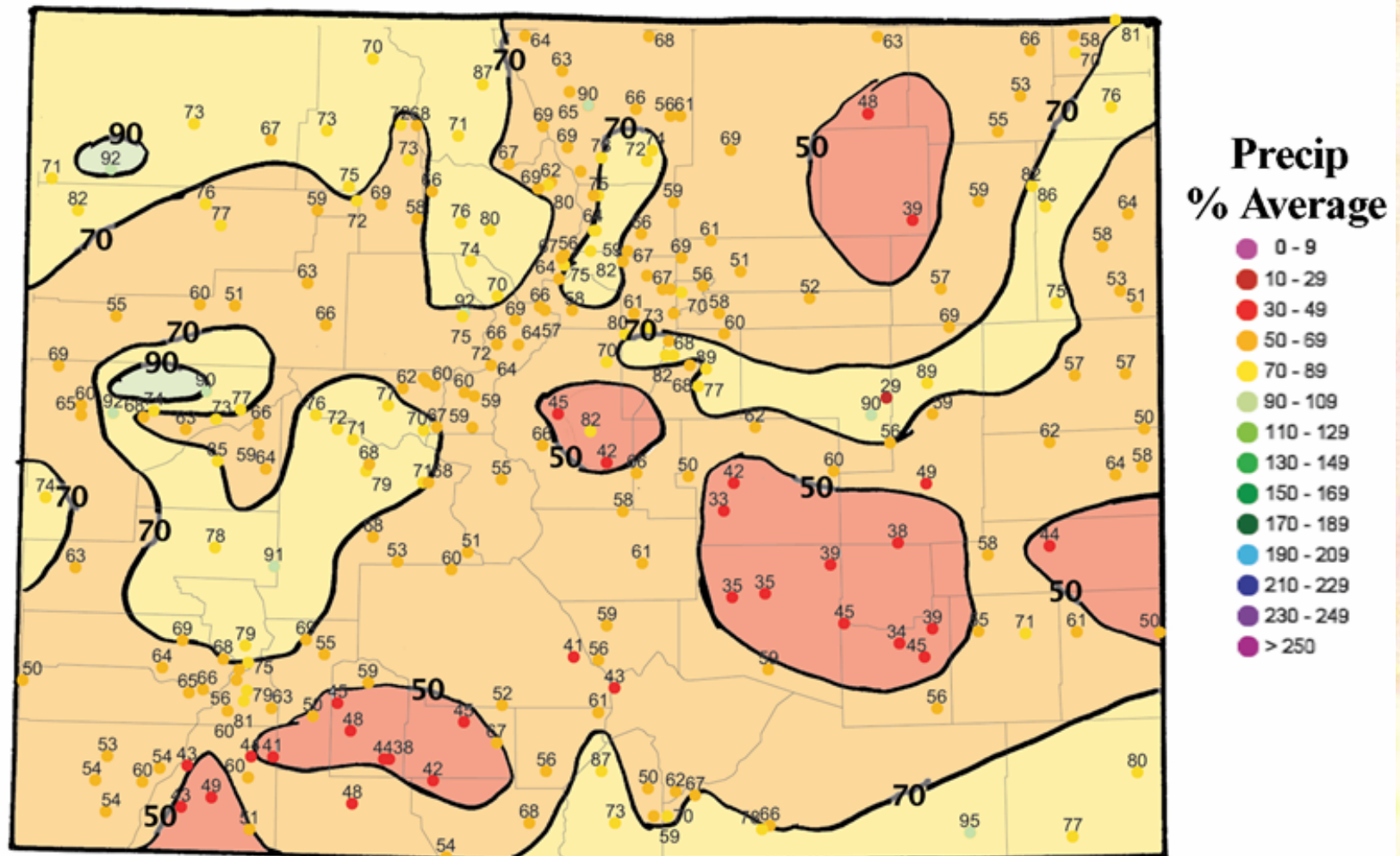
Presented at the 27th Annual AGU Hydrology Days, March 20, 2006, Colorado State University, Fort Collins, CO
(Prepared by Odie Bliss)



<http://ccc.atmos.colostate.edu>
<http://www.co.nrcs.usda.gov/snow/>

Water Year 2002 (Oct. 2001 - Sept. 2002)

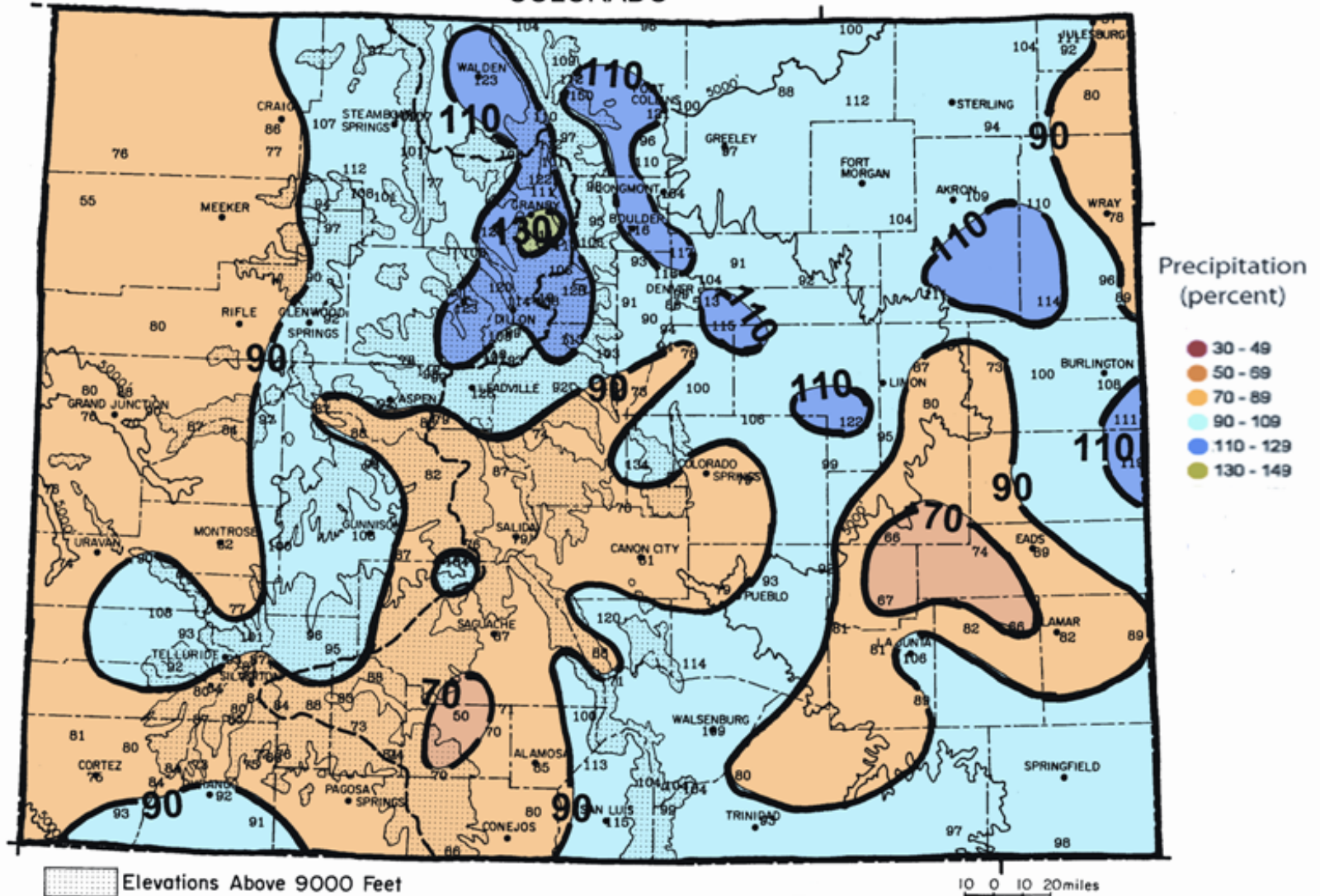
Precipitation Percent of Average for 1961-1990 Averages



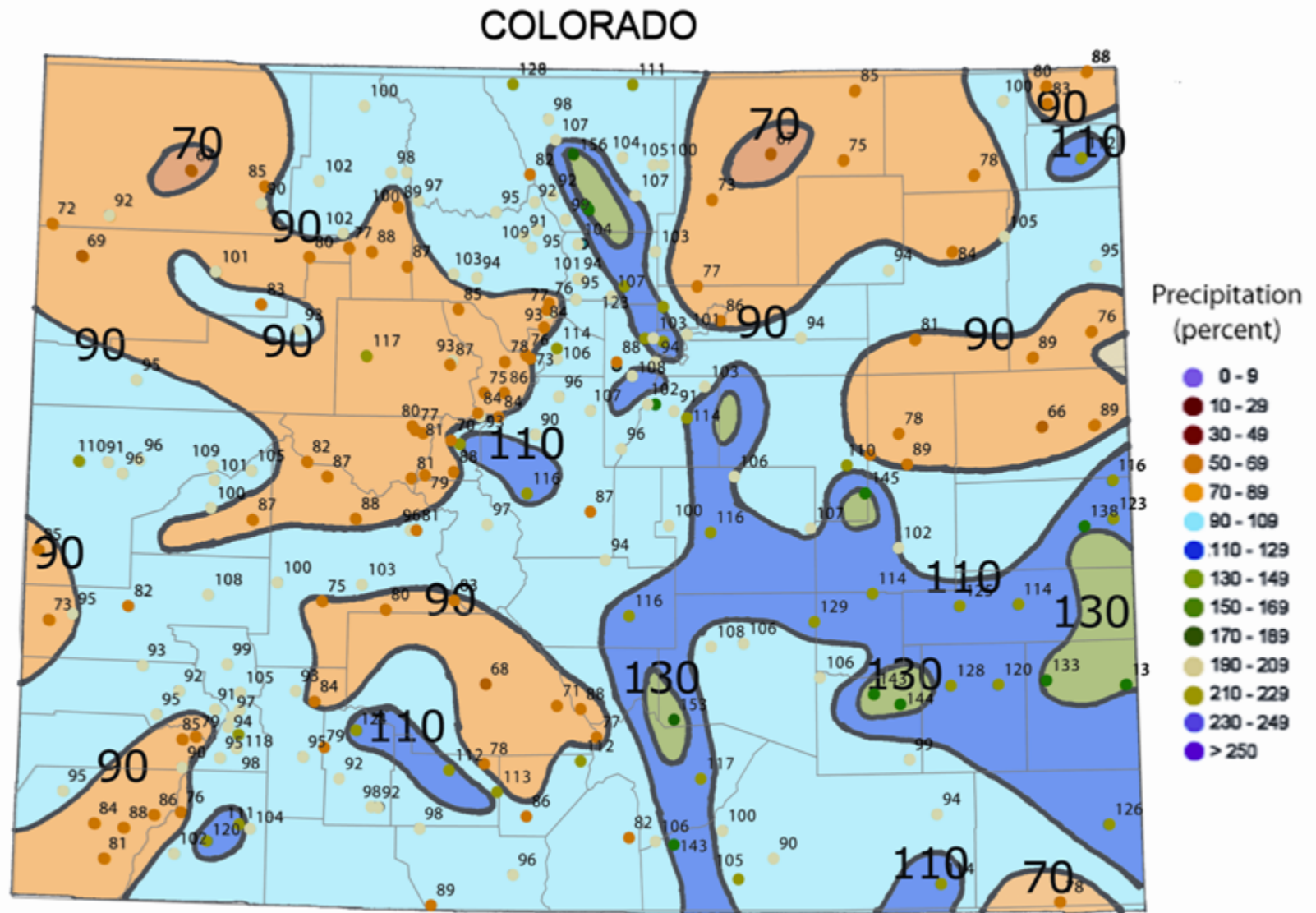
2003 Water Year Precipitation

October 2002 - September 2003 precipitation
as a percent of the 1971-2000 average.

COLORADO

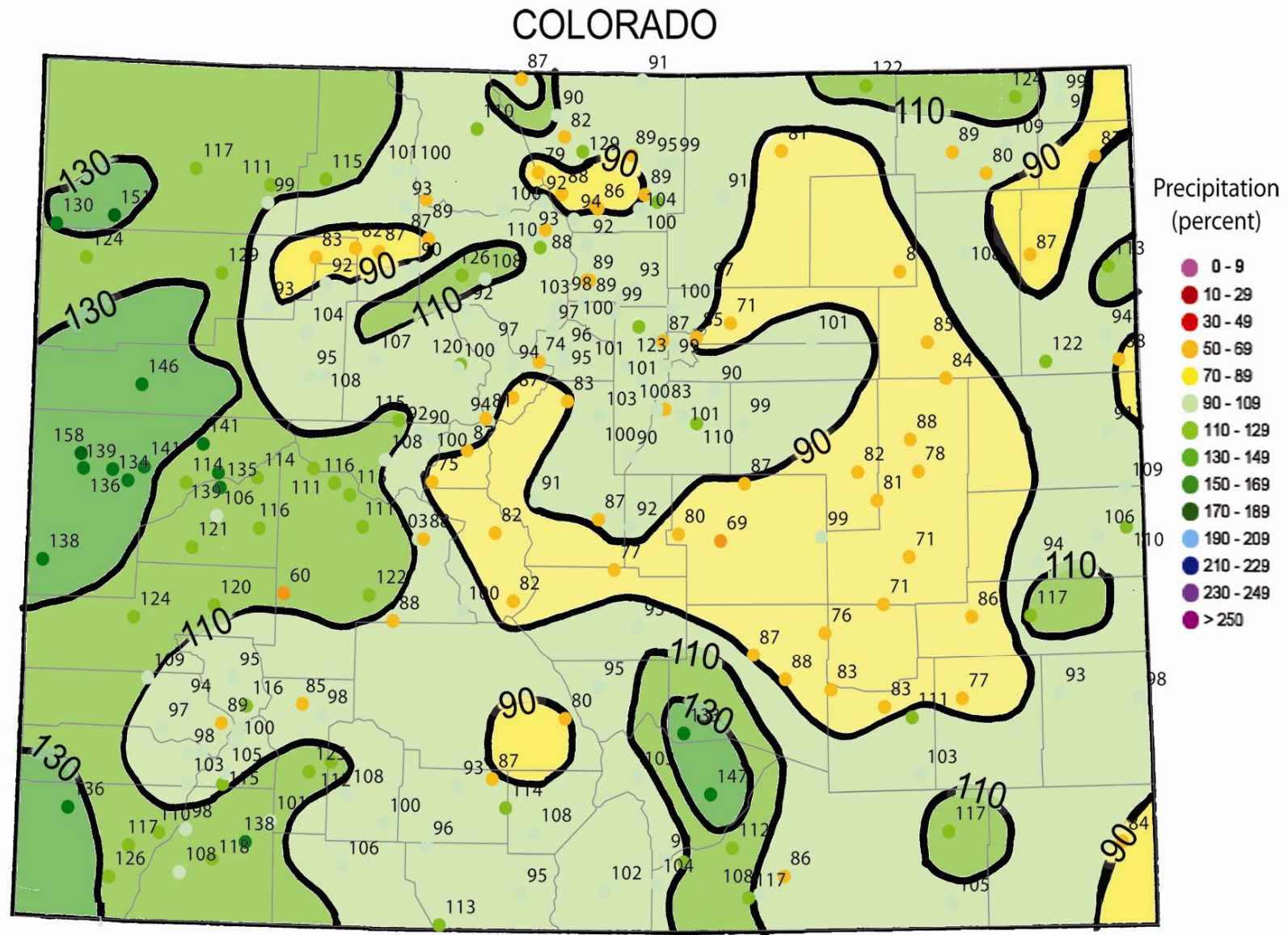


2004 Water Year Precipitation



Water Year 2004 (October 2003 through September 2004) precipitation as a percent of the 1971-2000 average.

2005 Water Year Precipitation



Water Year 2005 (Oct 04 - Sep 05) precipitation as a percent of the 1971-2000 average.

2006 Water Year



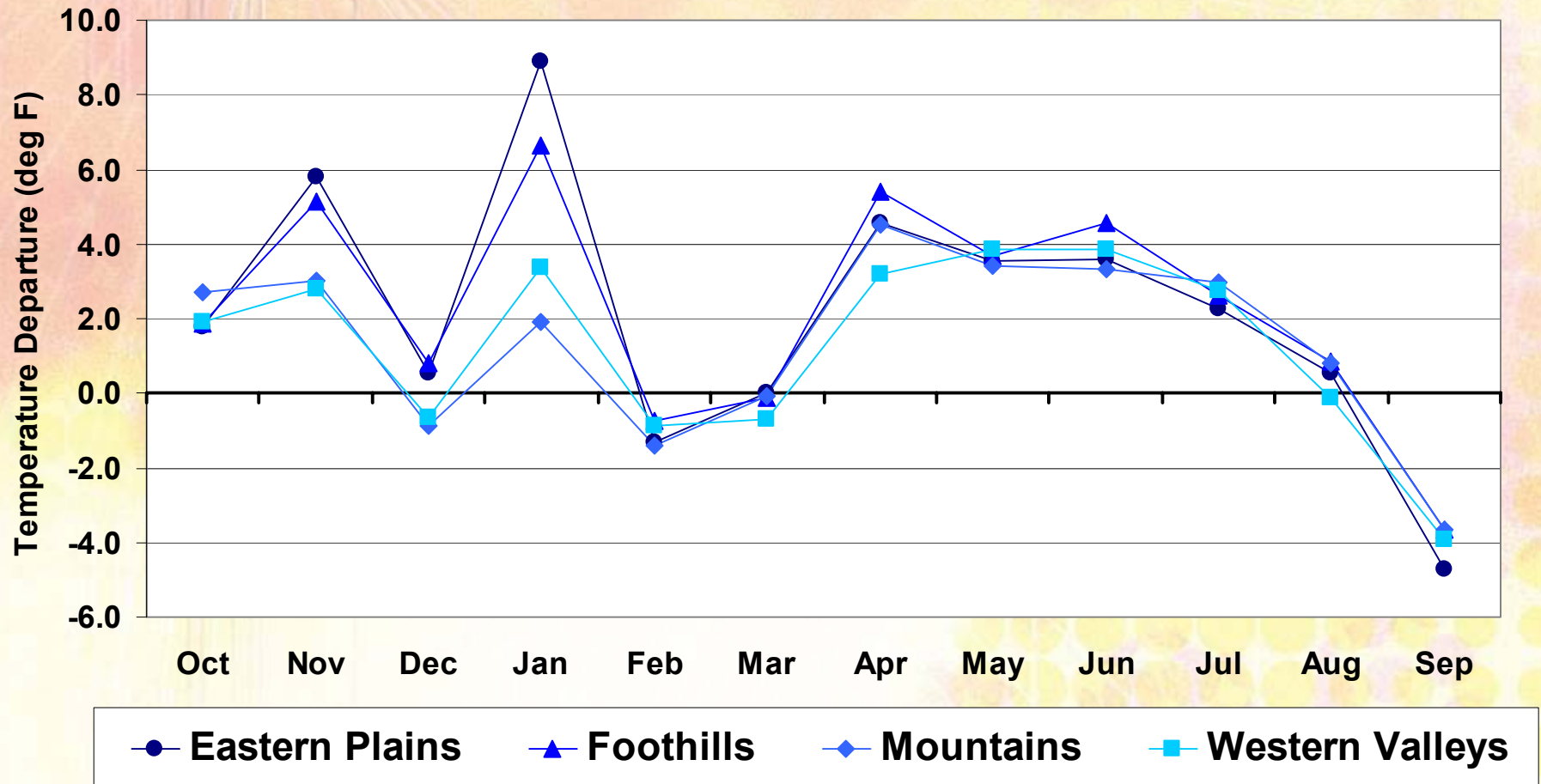
Photo by Lynn Kral, January 2006

WY2006 Temperature Summary

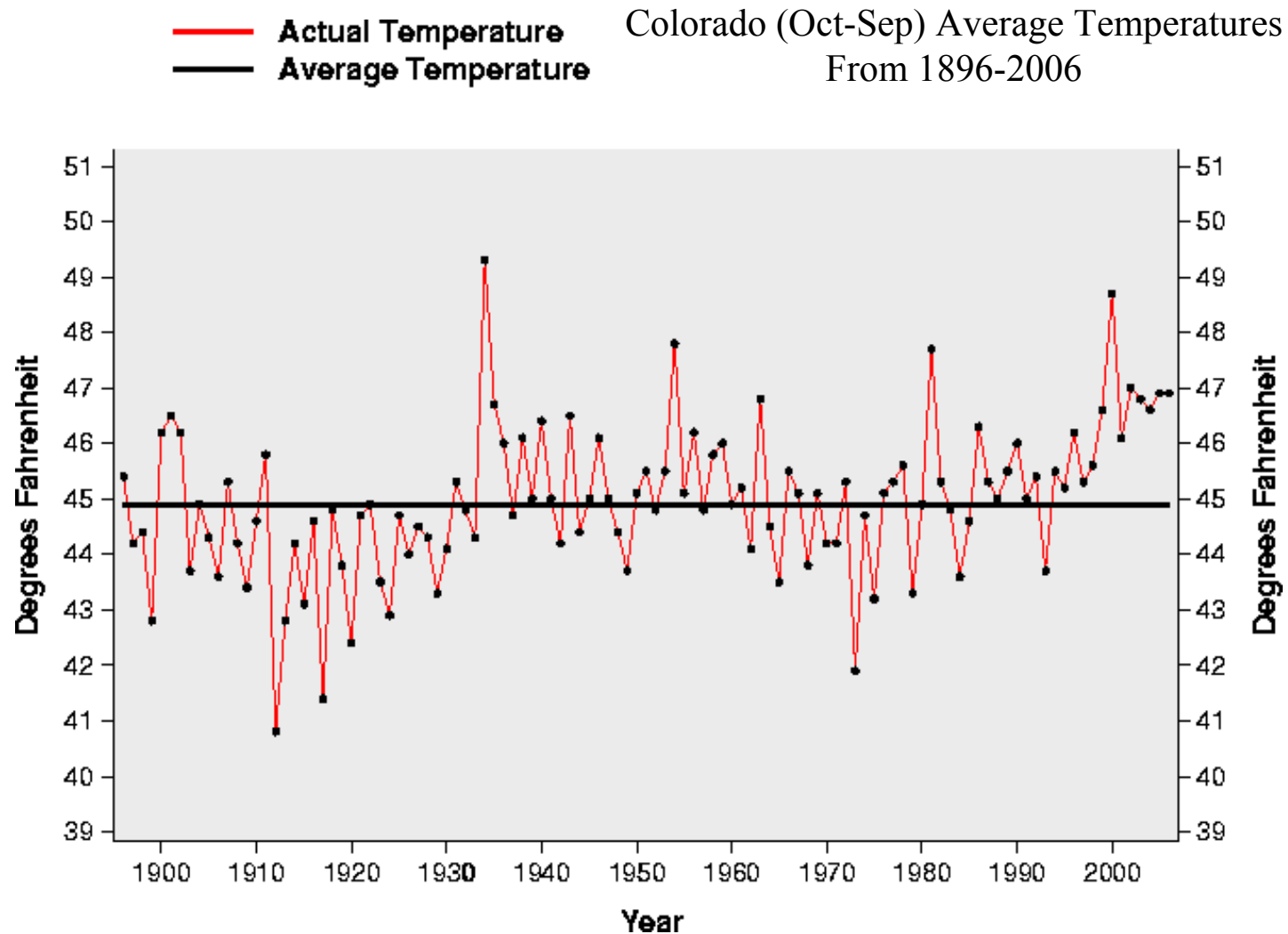
- Warm autumn
- Extreme warmth in January 2006, especially east of mountains
- Persistent warmth (above average temperatures) Spring through mid-Summer
- Cool end to a warm year

Water Year 2006 temperature departures from 1971-2000 average

Temperature Departures for Water Year 2006



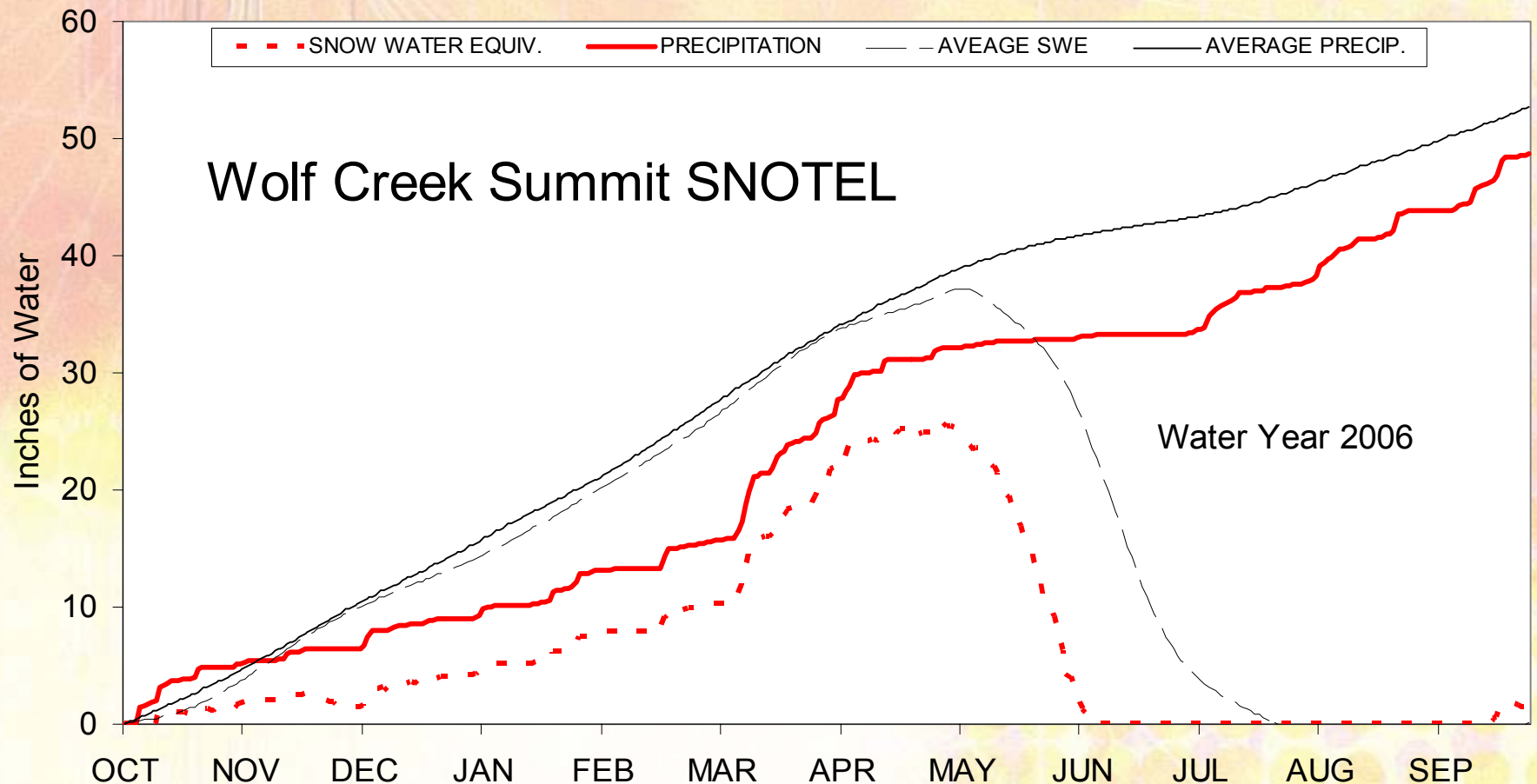
Overall, 2006 Water Year warmer than average – again!



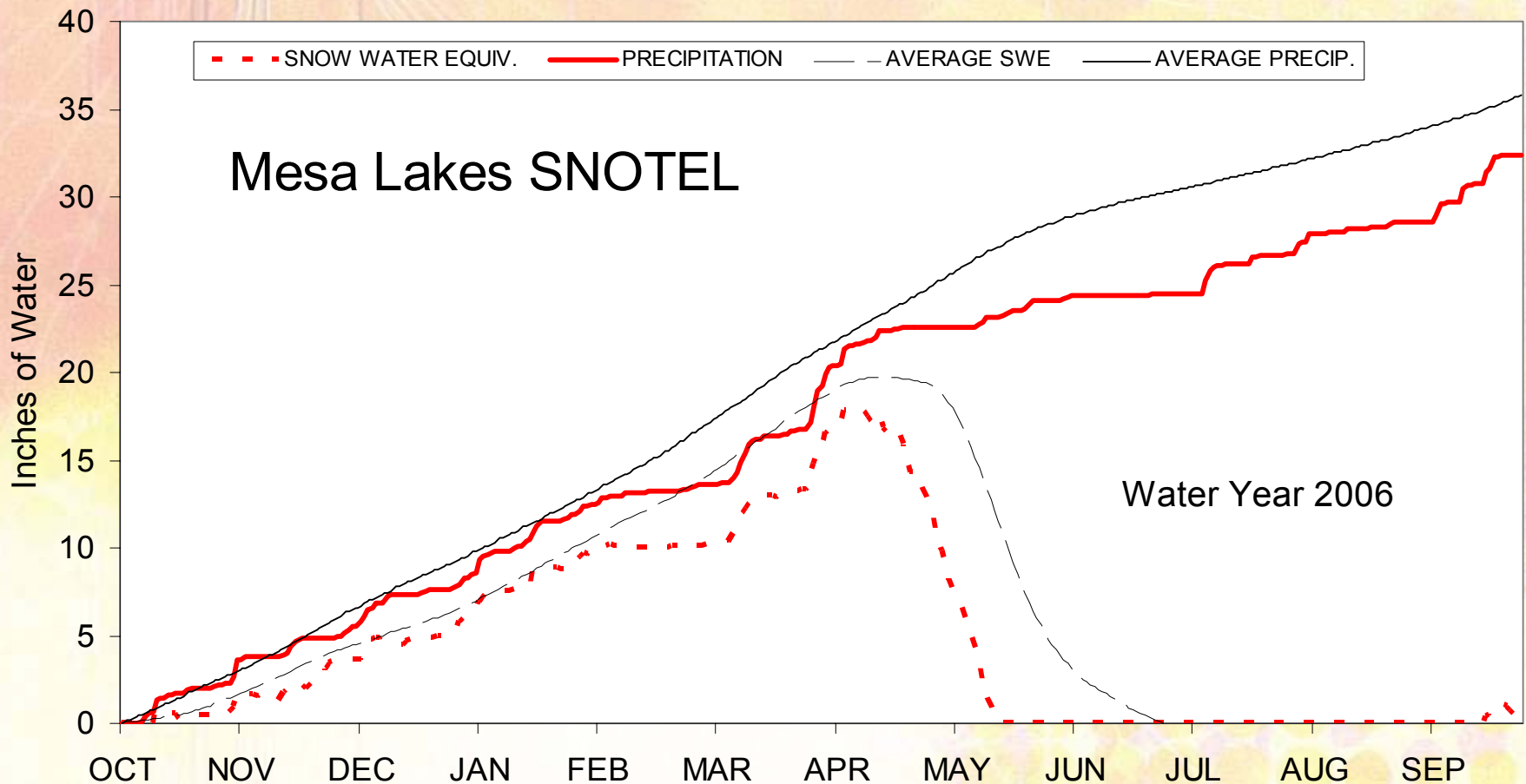
2006 WY Precipitation Summary

- Very wet October 2005
- Snowy winter Northern and Central mountains, but dry over Southern and Eastern Colorado
- Unsettled March
- Dry April through June Statewide
- Wet July through August, especially Southern Colorado
- Cool and wet September
- Overall, year ended near average except dry near Wyoming-Nebraska borders

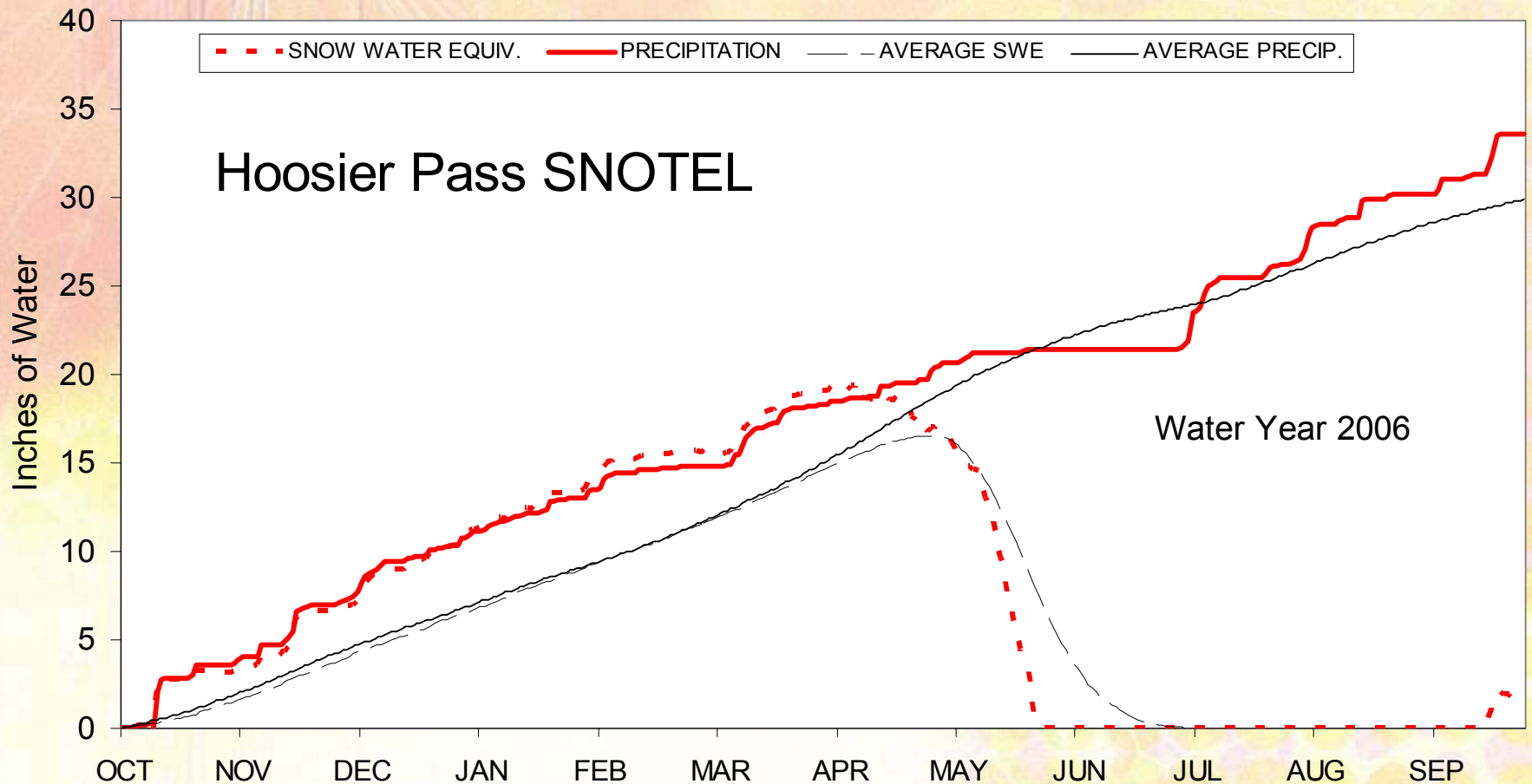
Wolf Creek Summit Snotel



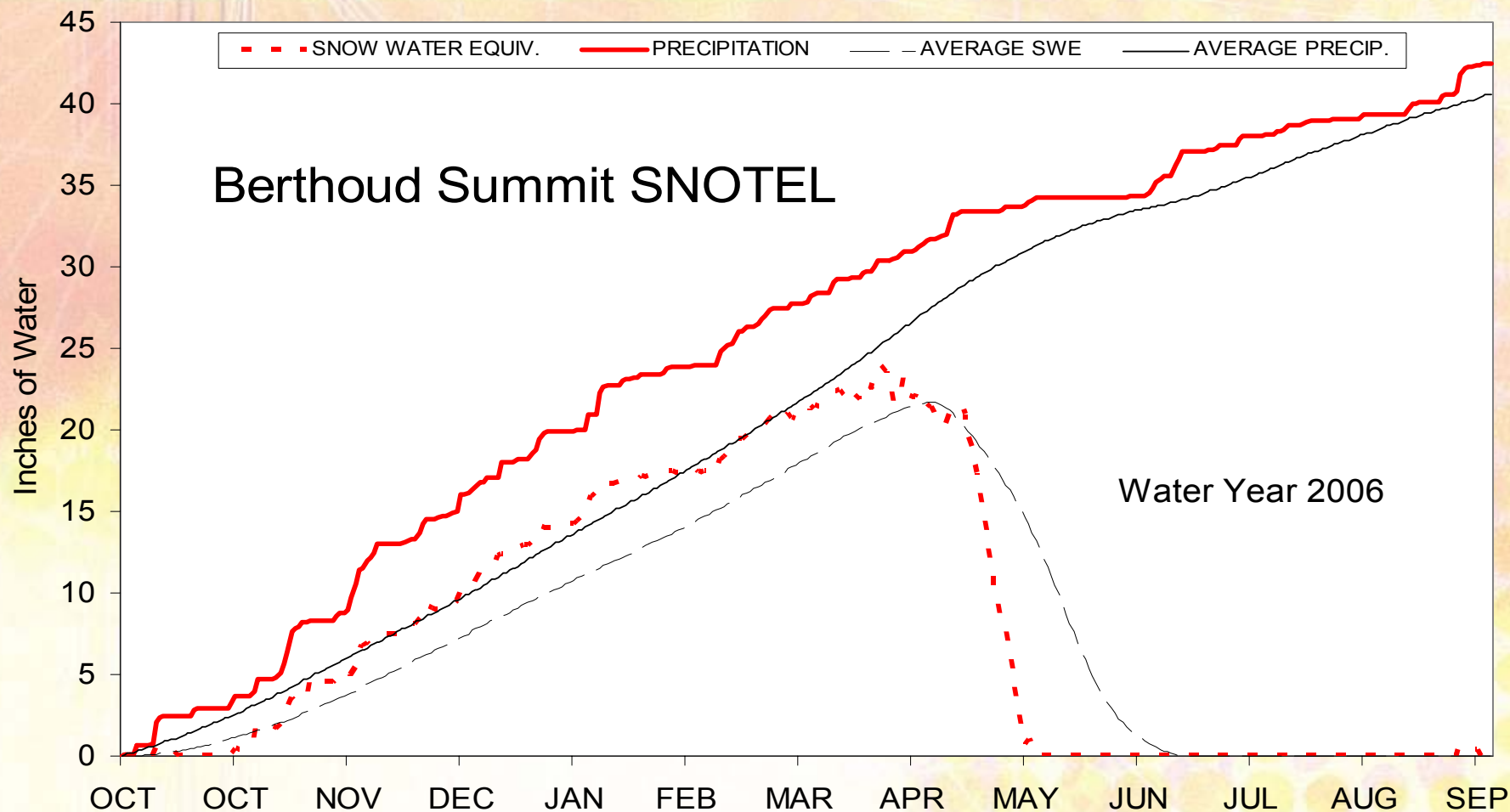
Mesa Lakes Snotel



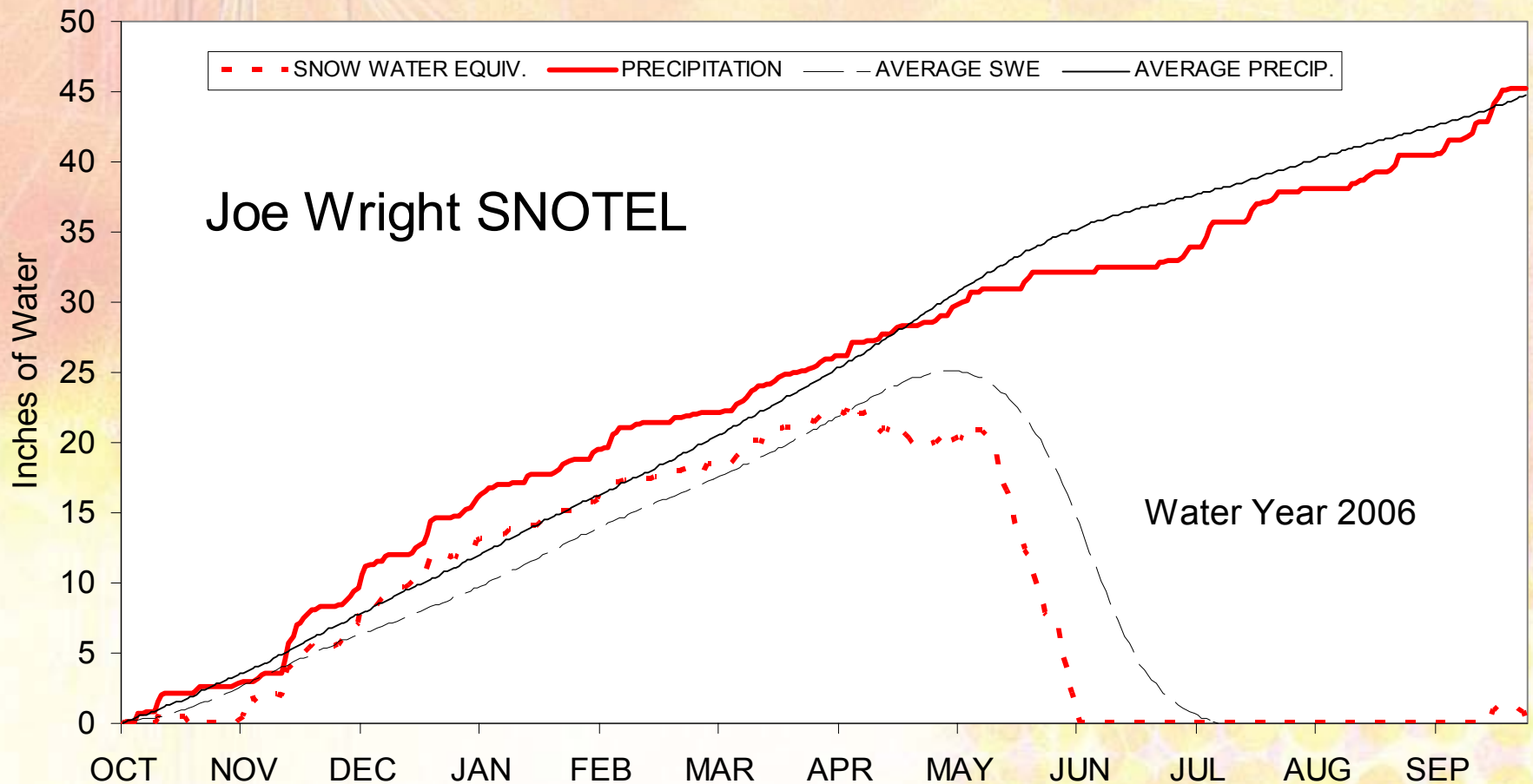
Hoosier Pass Snotel



Berthoud Summit Snotel



Joe Wright Snotel

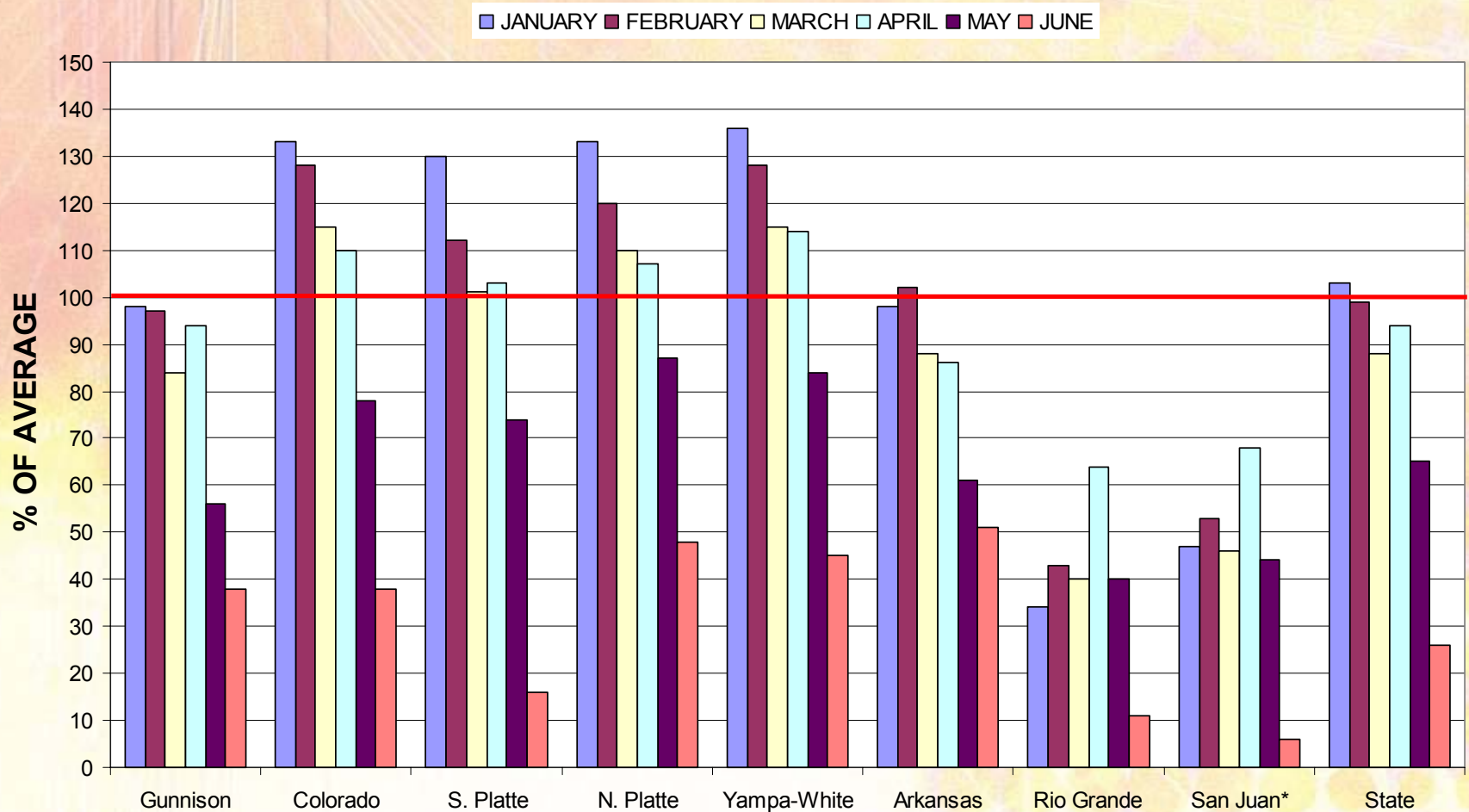


Colorado Snowpack for 2006

COLORADO SNOWPACK

Summary for 2006

USDA Natural Resources Conservation Service

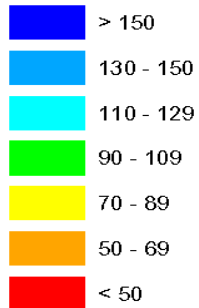


*Includes Animas, Dolores, San Miguel Basins

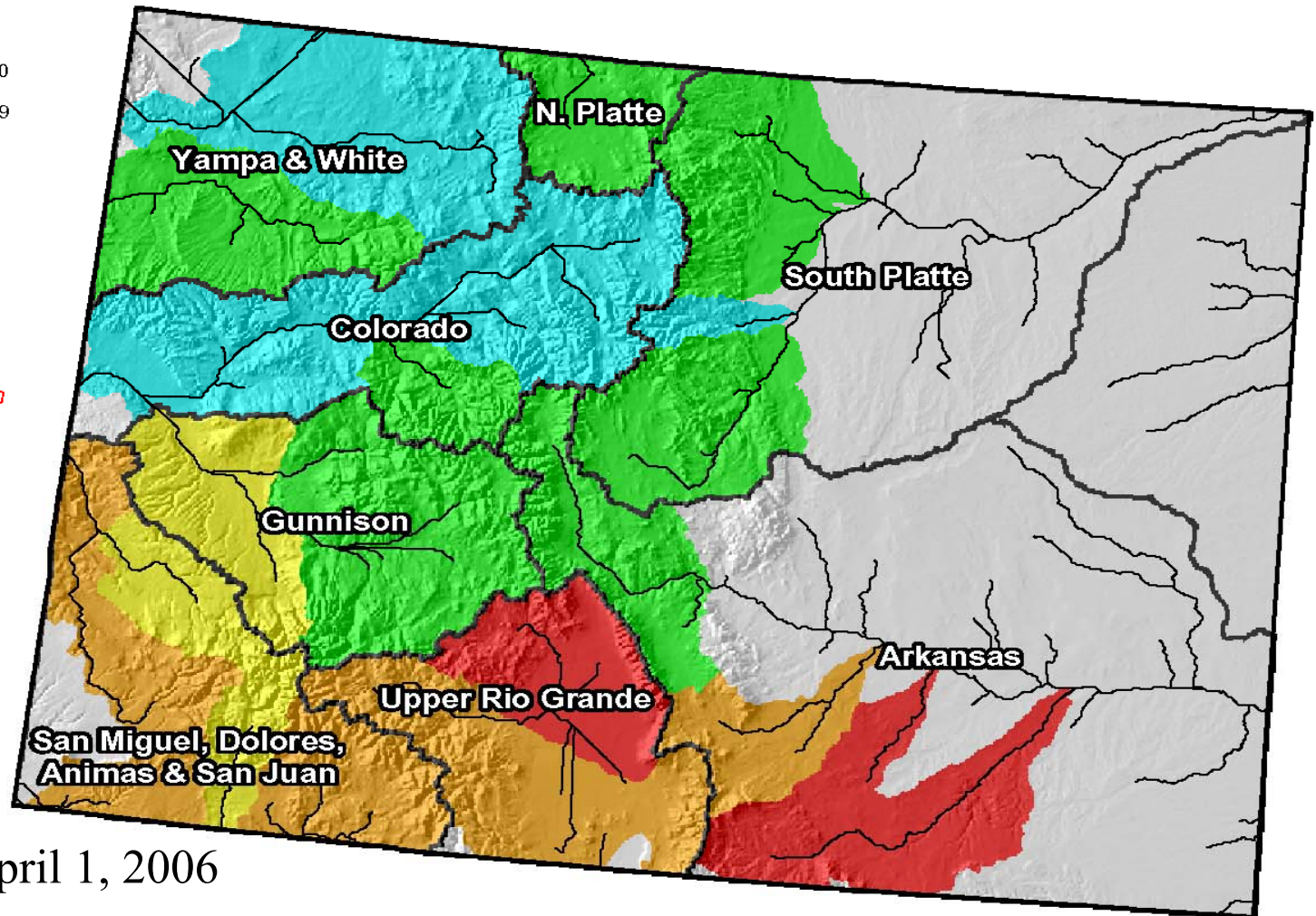
April 1 Snowpack

Colorado Snowpack Map

Percent of Average



*Provisional Data
Subject to Revision*

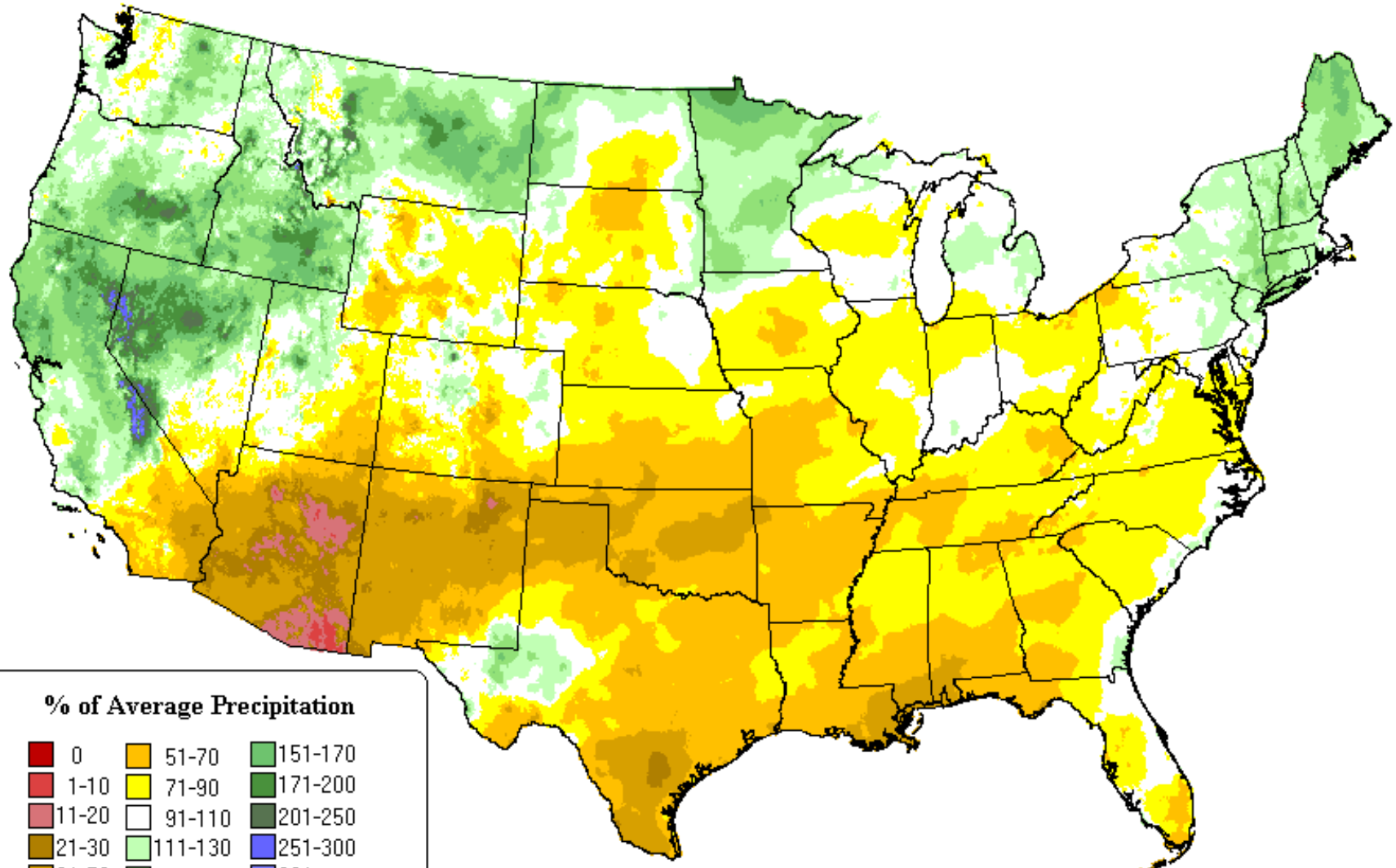


Current as of April 1, 2006

http://www.co.nrcs.usda.gov/snow/snow/state/current/monthly/maps_graphs/getsnomap.html

Winter (Oct 2005 – Apr 2006) % of Average

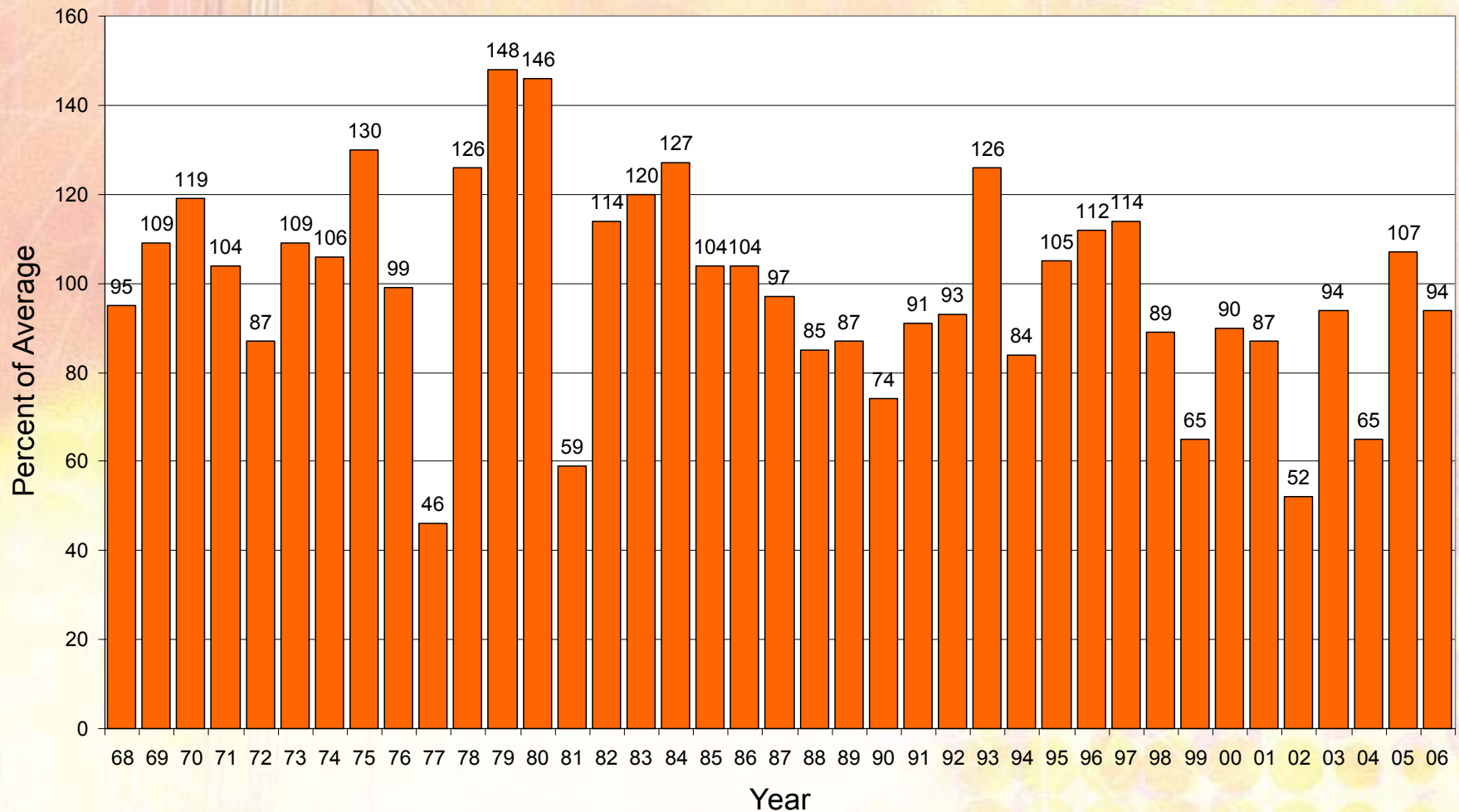
7-month Percent of Average Precipitation: Apr 2006
Provisional Data



Copyright (c) 2006, Spatial Climate Analysis Service, Oregon State University
<http://www.ocs.oregonstate.edu/prism> - Map created May 09 2006

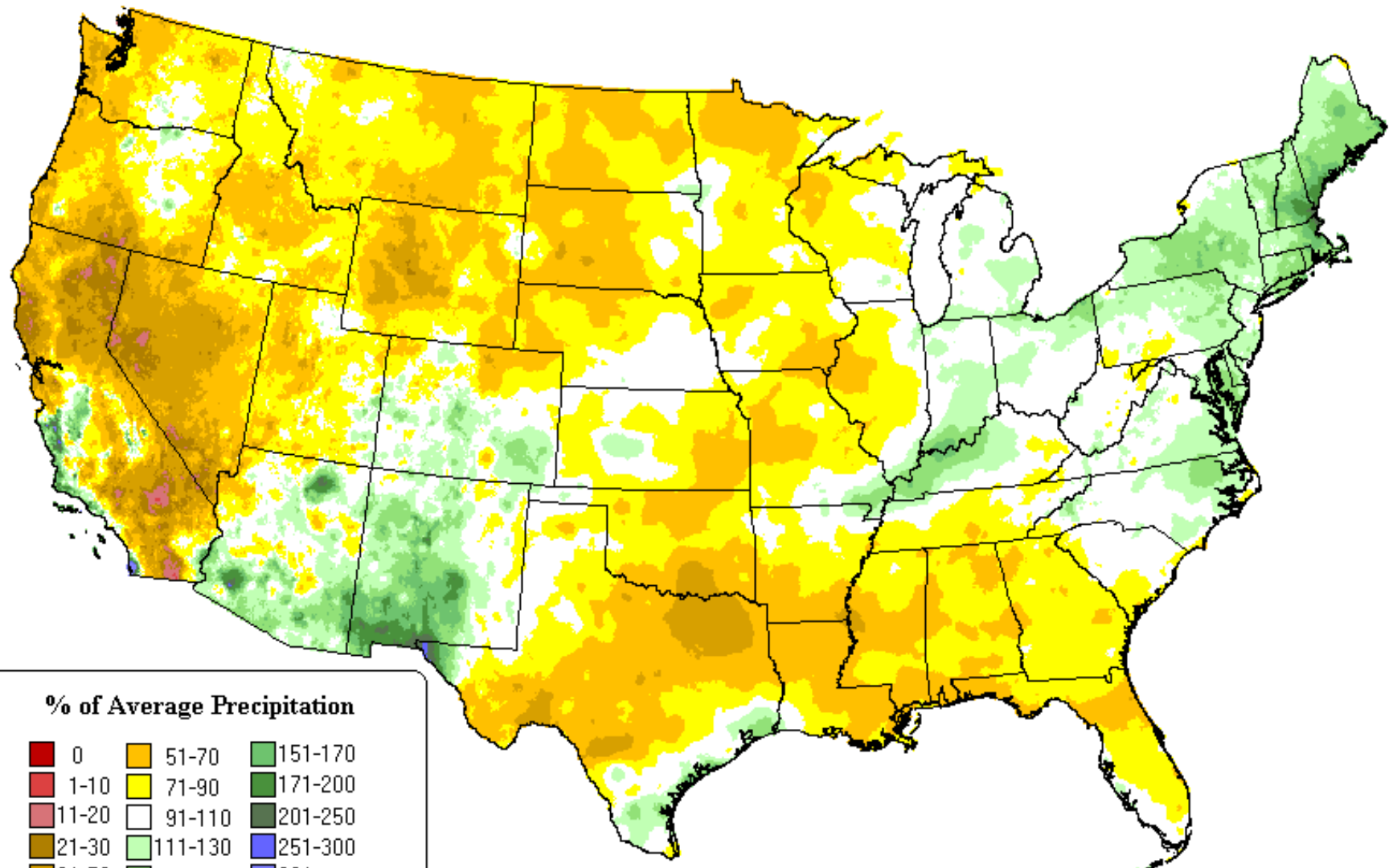
April 1 Snowpack History

APRIL 1 SNOWPACK
COLORADO STATEWIDE



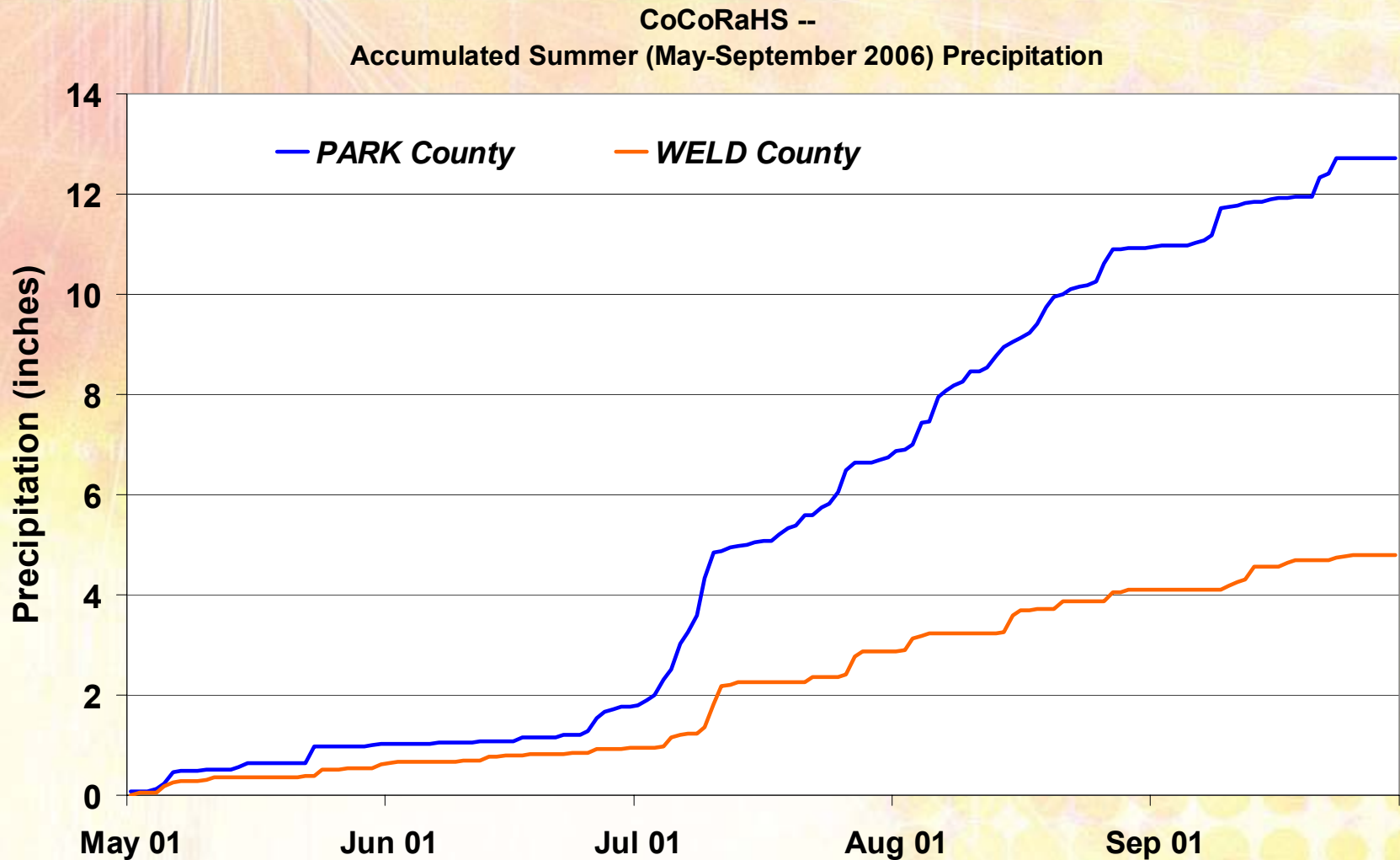
Summer 2006 (May–Sep) precipitation as a percent of average (Prism)

5-month Percent of Average Precipitation: Sep 2006
Provisional Data



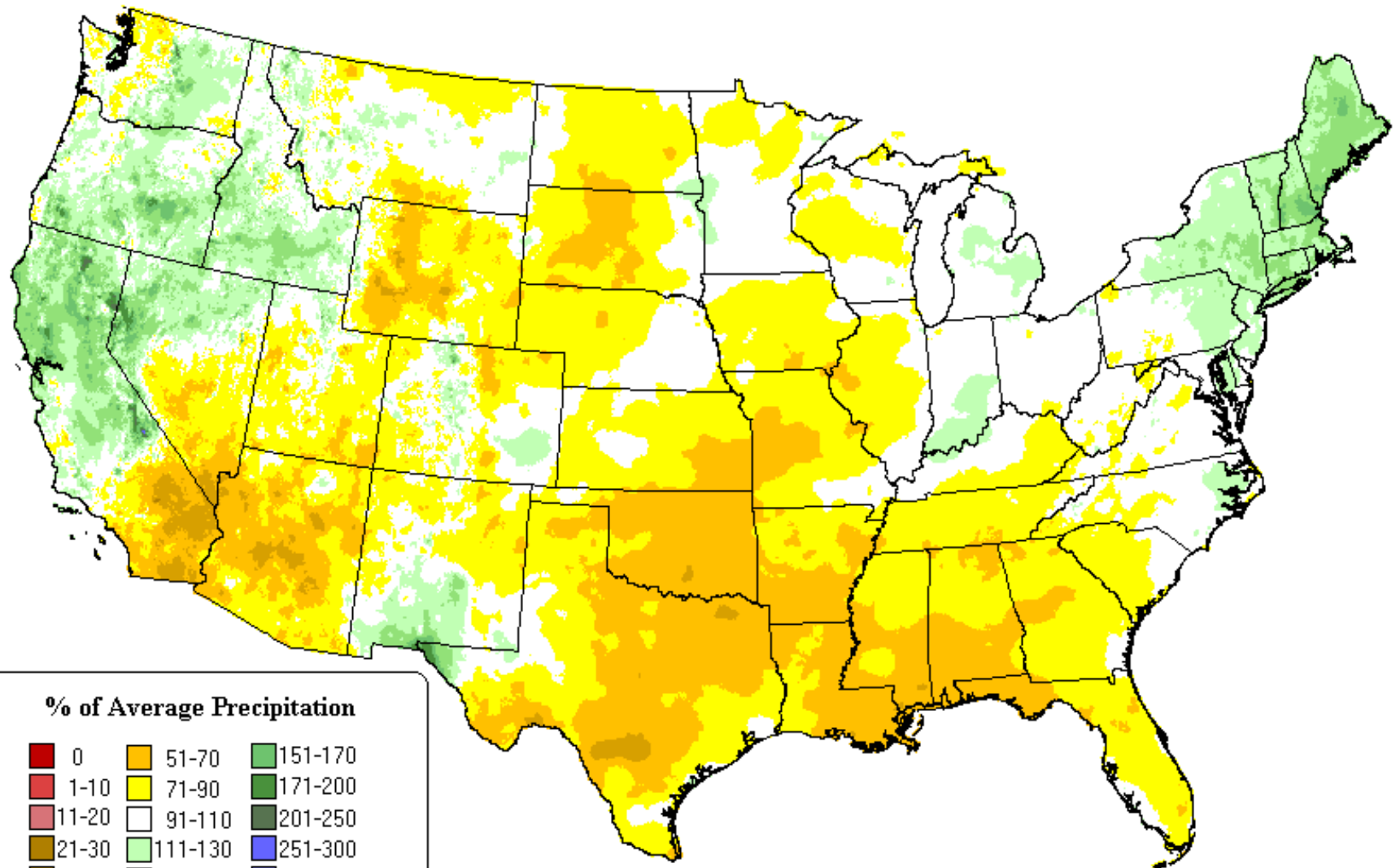
Copyright (c) 2006, PRISM Group, Oregon State University
<http://www.ocs.oregonstate.edu/prism> - Map created Oct 12 2006

Daily Precipitation Accumulation Summer 2006 (May-September)



Water Year 2006 precipitation as a percent of average (Prism)

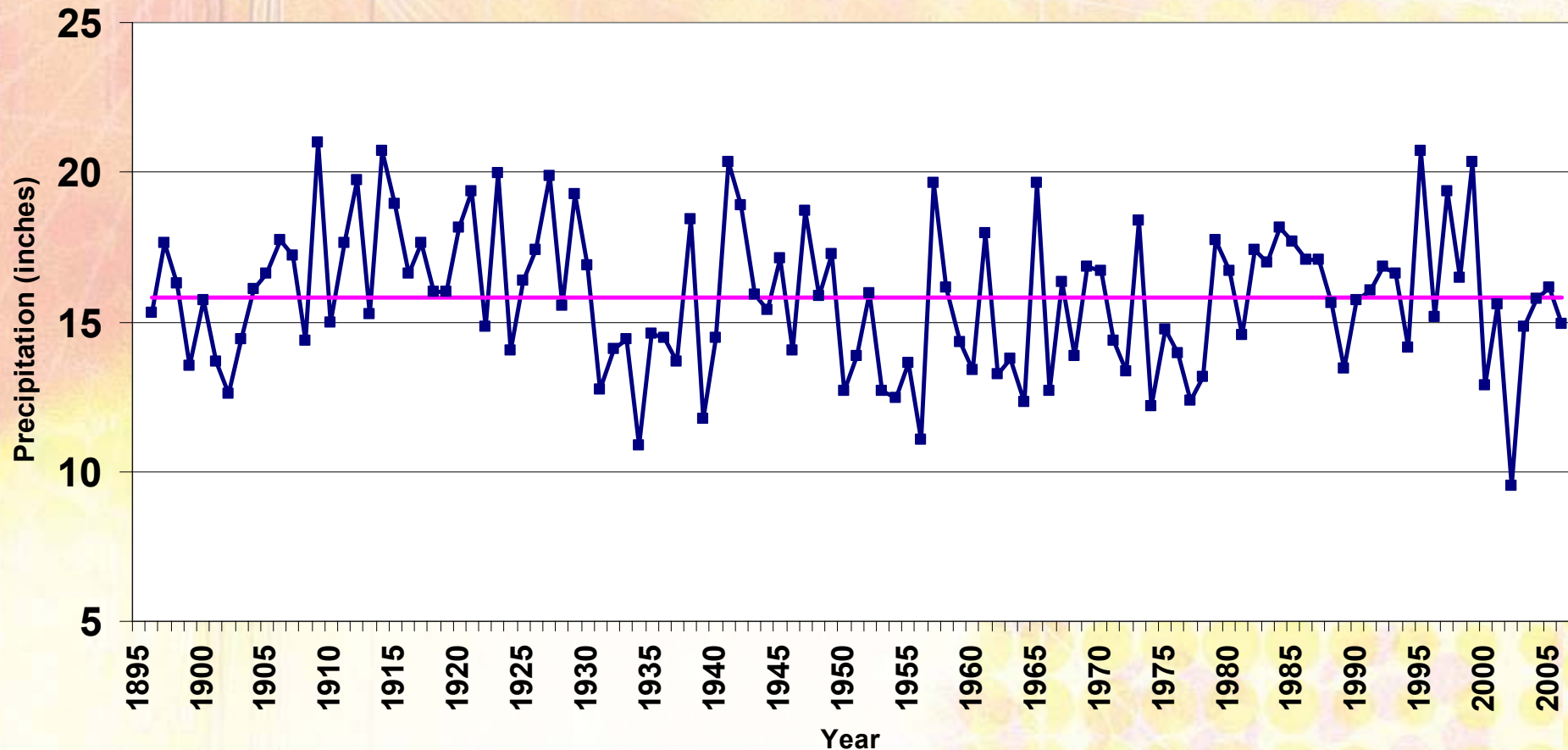
12-month Percent of Average Precipitation: Sep 2006
Provisional Data



Copyright (c) 2006, PRISM Group, Oregon State University
<http://www.ocs.oregonstate.edu/prism> - Map created Oct 12 2006

Colorado Precipitation in Historic Perspective

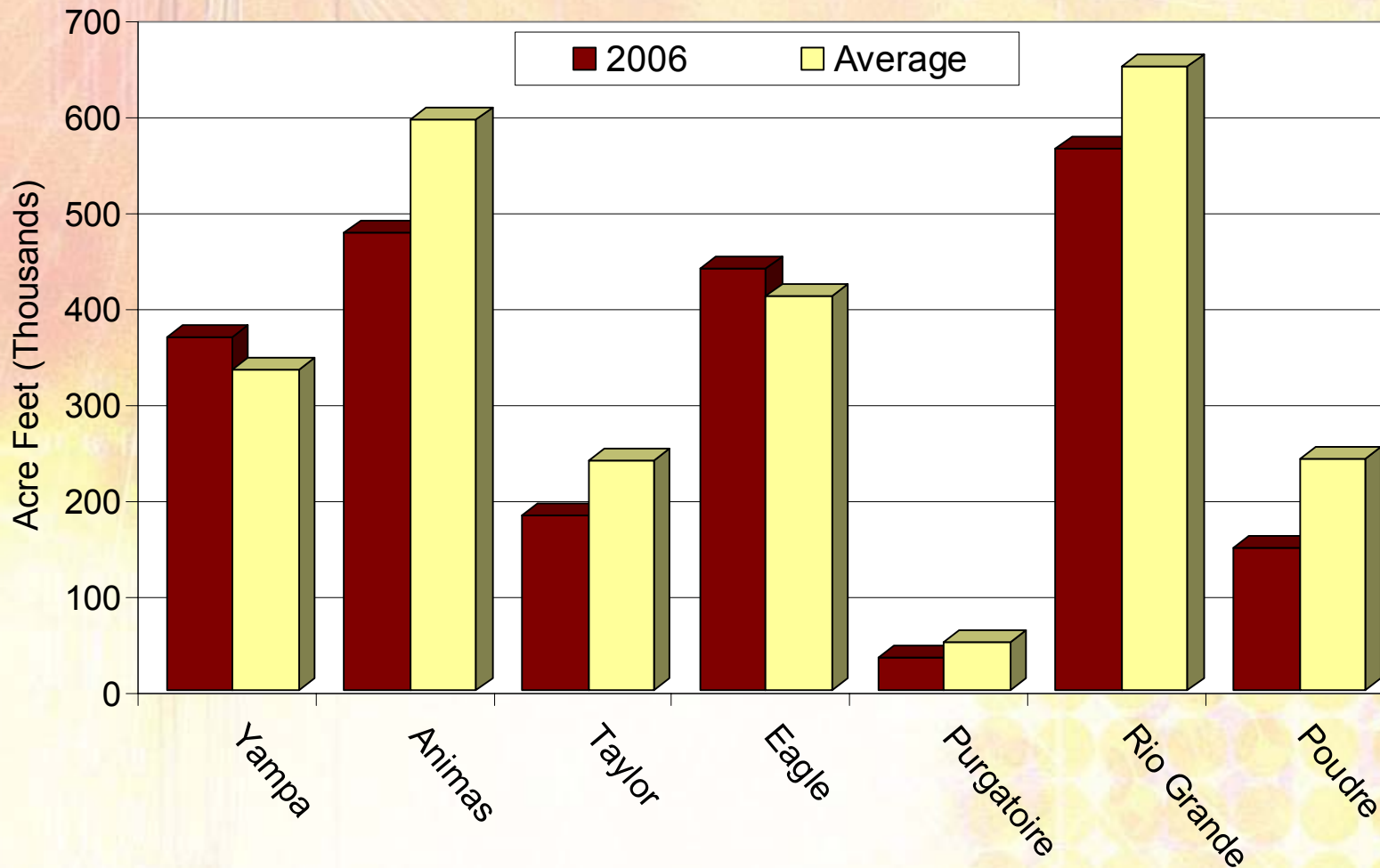
Colorado Statewide Water Year (Oct-Sep) Precipitation
from 1896 - 2006



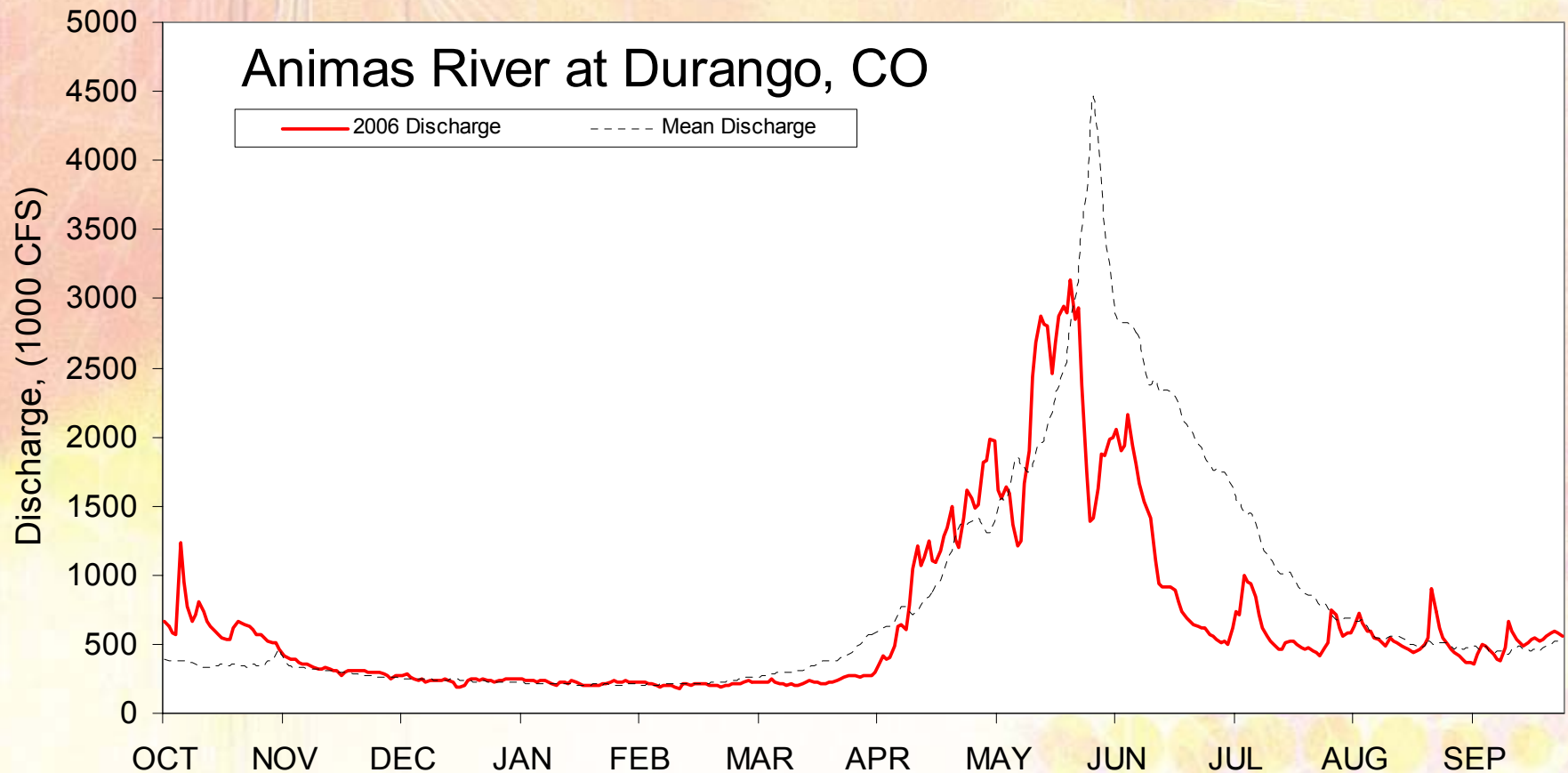
2006 Streamflow Summary

- Above average streamflow Yampa, Eagle and other river basins in Northern and Central mountains west of the Continental Divide
- Below average streamflow elsewhere
- Some late summer runoff from heavy rains in Southern Colorado

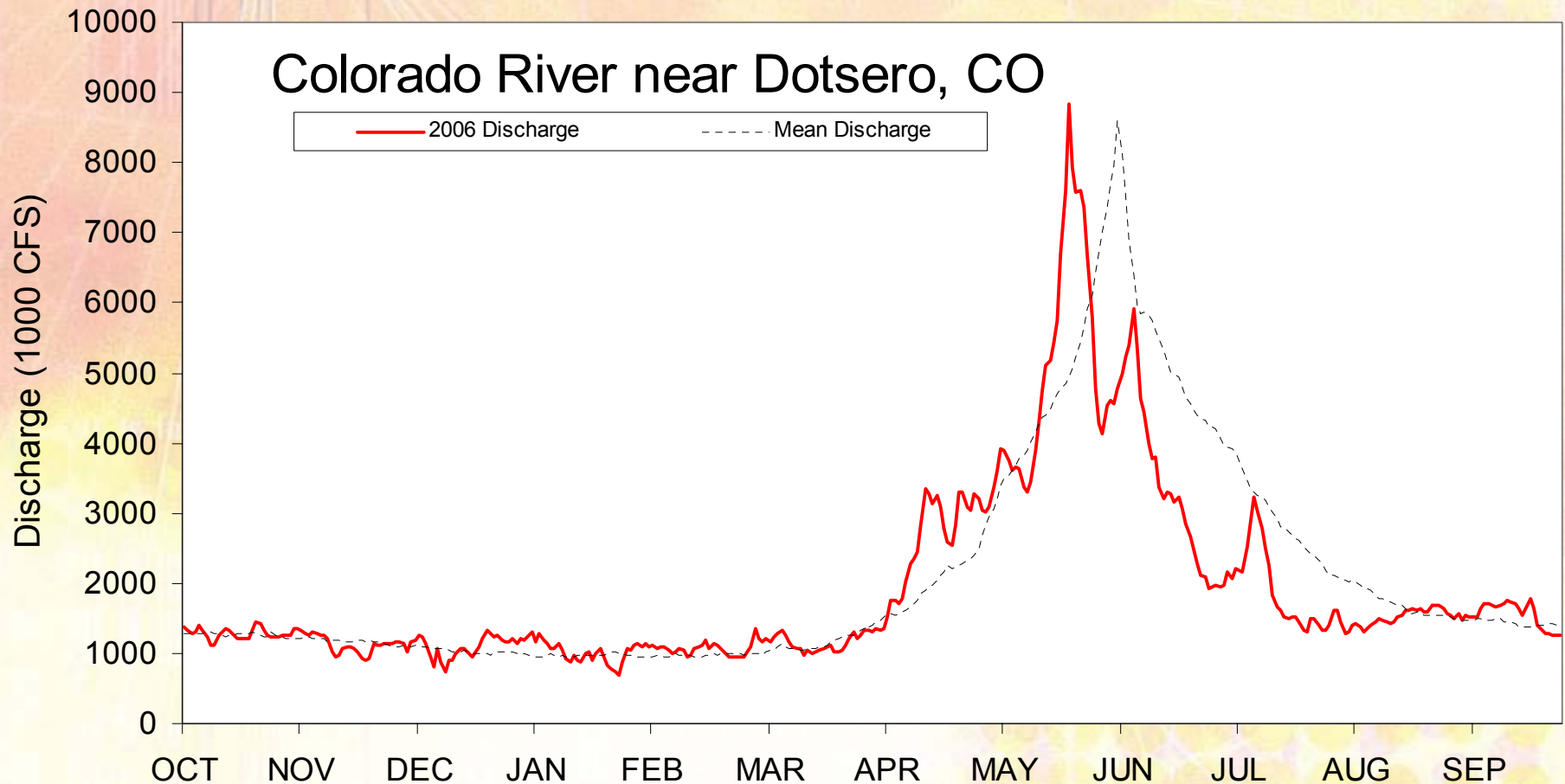
Streamflow vs. Average



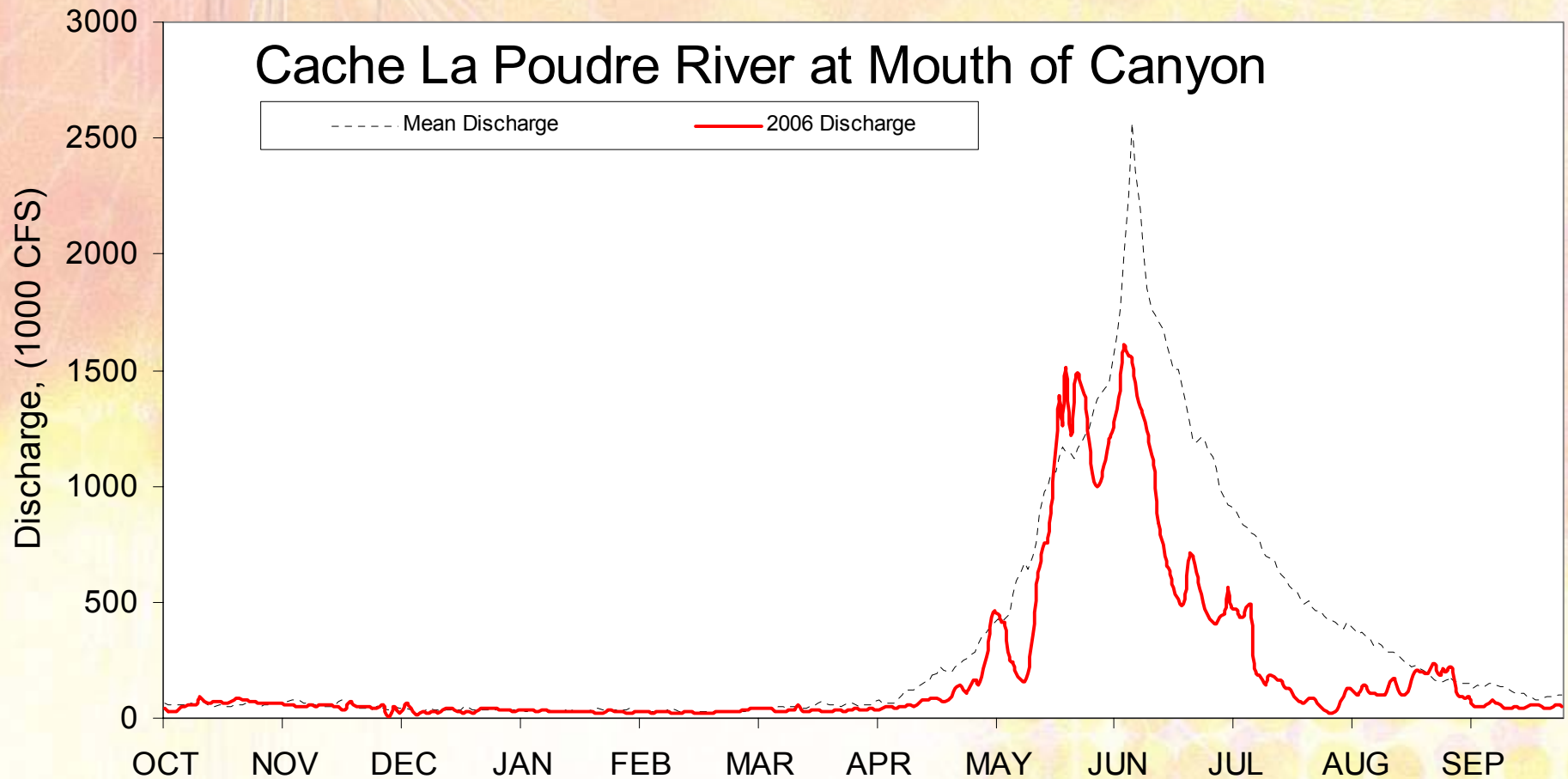
Animas River Streamflow



Colorado River Streamflow



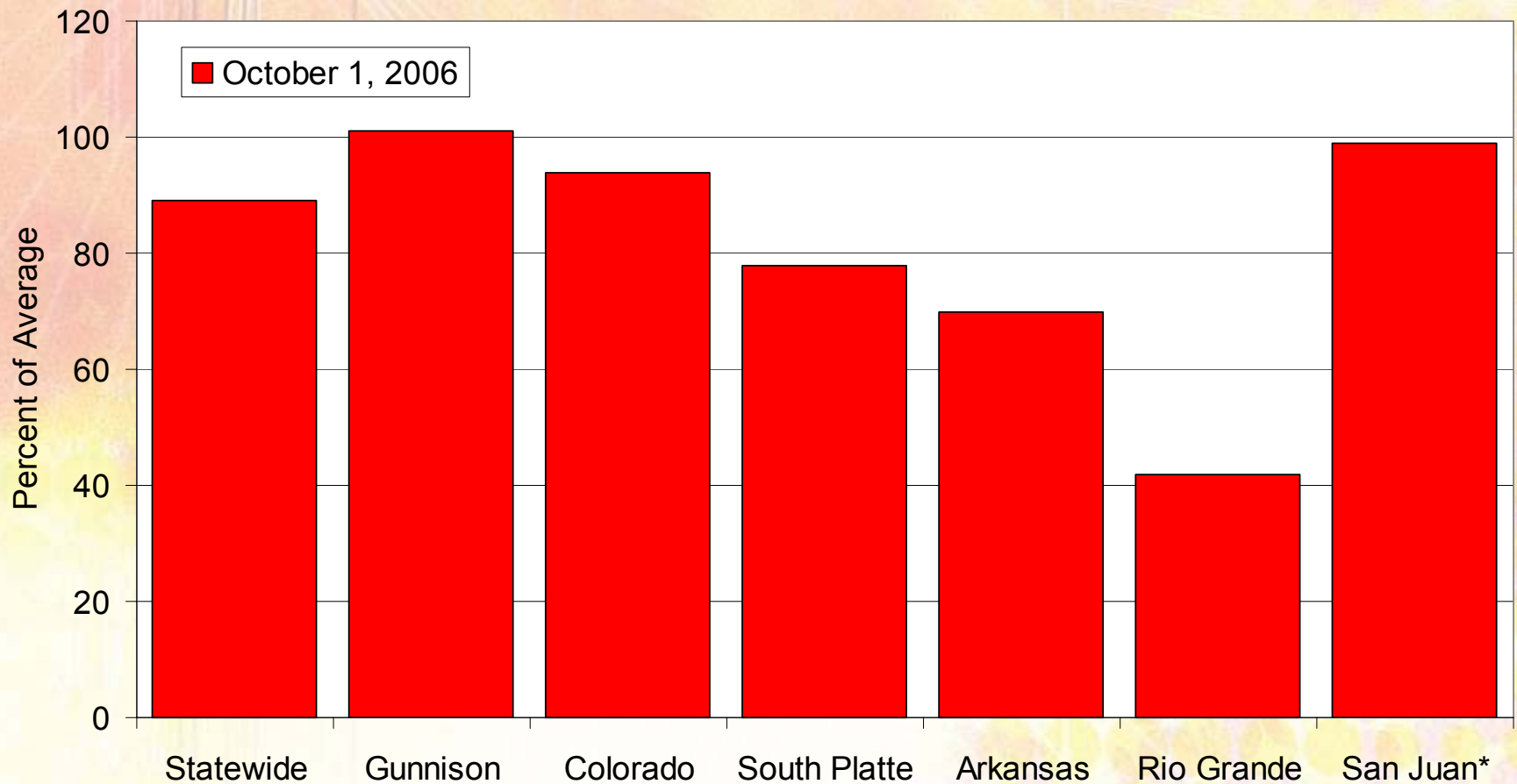
Cache La Poudre River Streamflow



2006 Reservoir Storage Summary

- Storage varied, but the dry spring and lower than expected runoff resulted in reductions in stored water especially east of mountains
- Some improvements late in the year due to summer rains and less demand for water late in the season

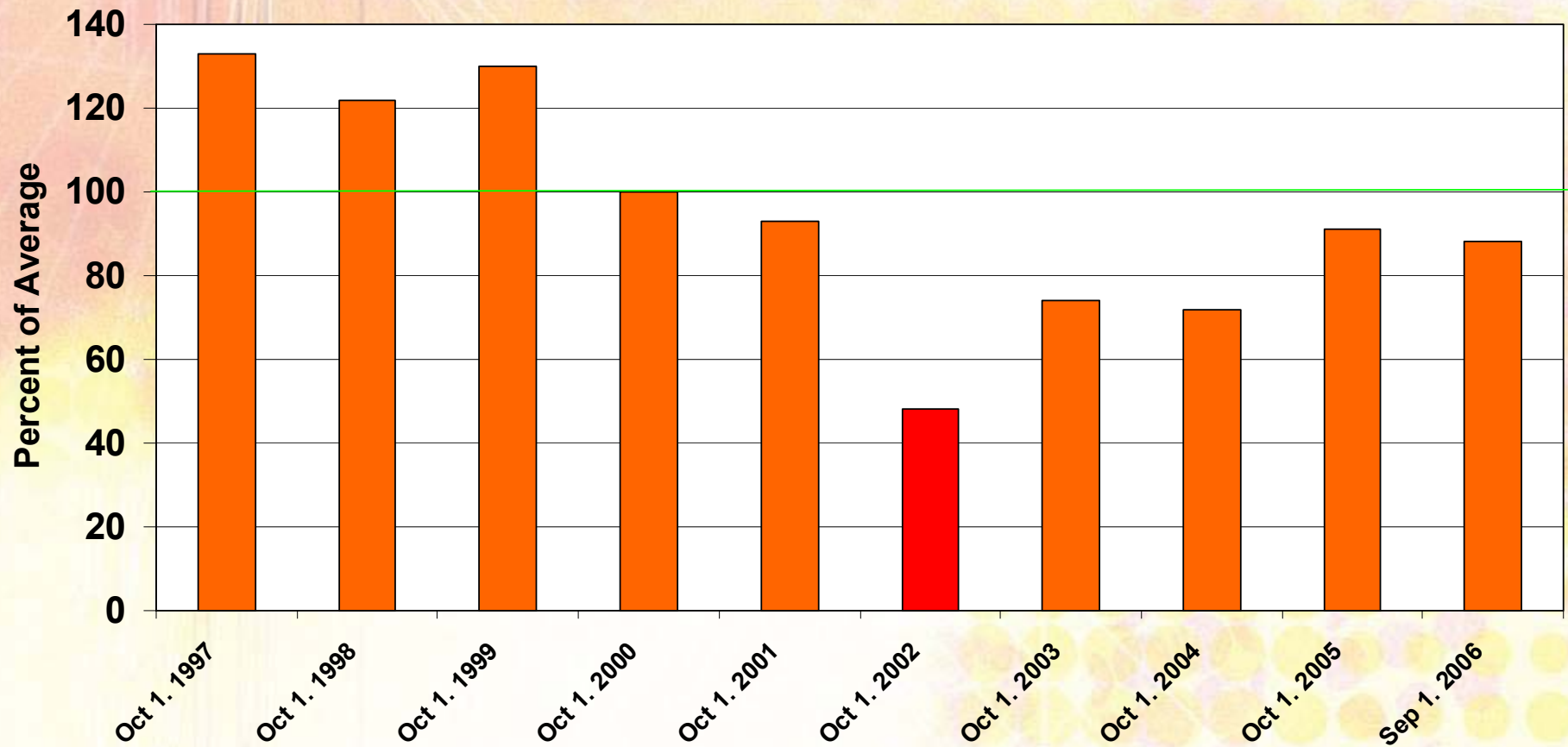
Reservoir Storage by Basin, Oct 1, 2006



*includes the Animas and Dolores basins

Colorado Reservoir Storage Levels

**Colorado Statewide Reservoir Levels on October 1st
for Years 1997- 2005 and Sept 1, 2006**



WY 2006 Summary

- Soaking October storm – especially over Eastern Colorado
- Windy, dry winter over Foothills and Eastern Plains
- Frequent midwinter snows Northern Mountains
- Very warm and dry spring (tough on Agriculture)
- Early July soaking
- Wet summer over much of southern Colorado
- A chilly ending to another warm year

But,

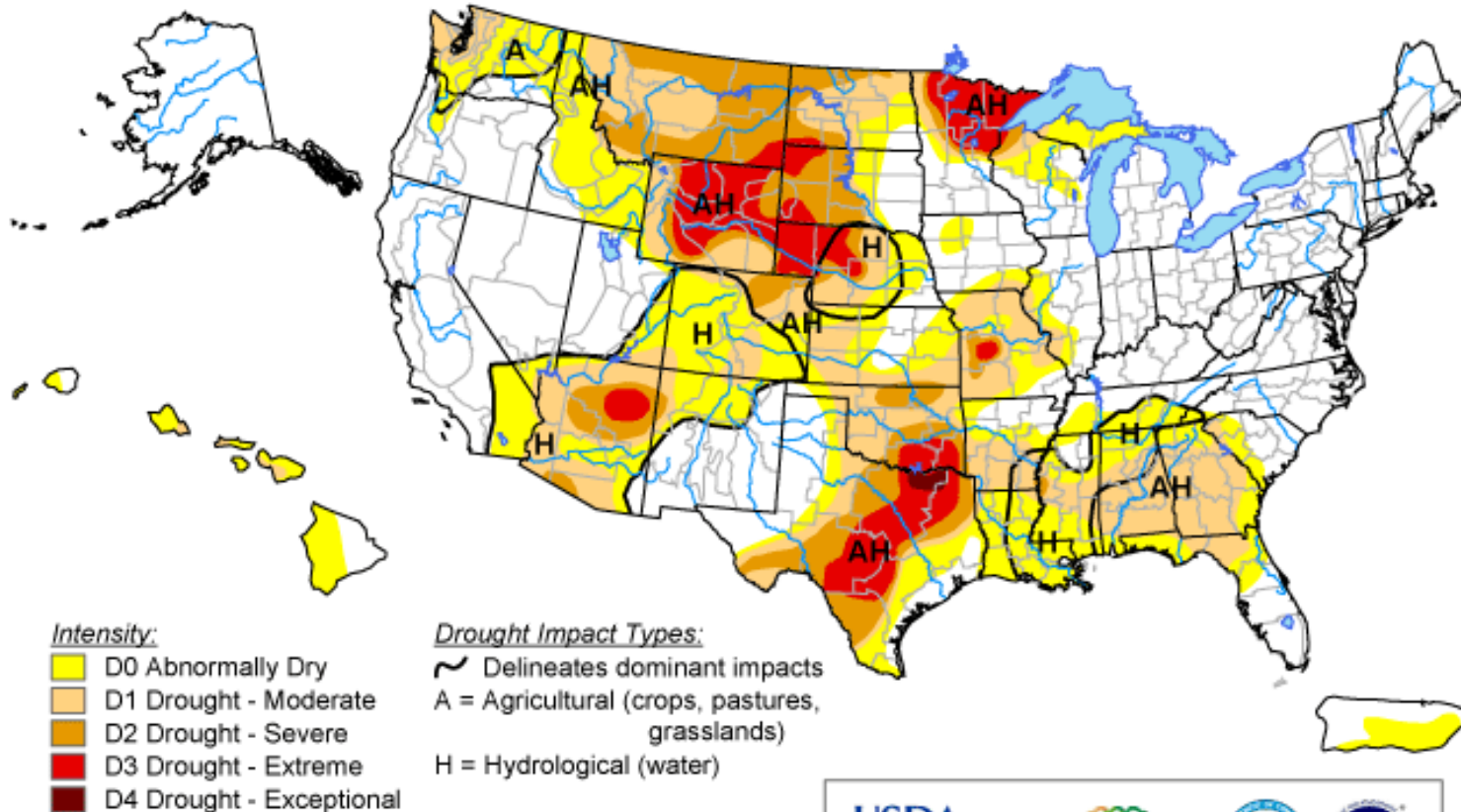
- Some cold and windy winter weather, but still warmer than average for many areas for 13th winter in a row

Drought conditions worsened over Northern Plains during 2006

U.S. Drought Monitor

October 3, 2006

Valid 8 a.m. EDT



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, October 5, 2006

Author: Rich Tinker, Climate Prediction Center, NOAA

<http://drought.unl.edu/dm>

CoCoRaHS – Community Collaborative Rain Hail and Snow: We're looking for more volunteers!



Photo by Henry Reges

Heaviest Rain of the Year

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

Fremont County, Colorado 7/6/2006

0.0 Trace 0.01 - 1.01 1.01 - 2.03 2.03 - 3.04 3.04 - 4.05 4.05 - 5.07 5.07 - 6.08

Fremont County
Precipitation
July 6, 2006

Fremont

<http://www.cocorahs.org>

Natural Resources Conservation Service

Snow Survey Office

- Access to snowpack, precipitation, reservoir data and streamflow forecast information available at:

<http://www.co.nrcs.usda.gov/snow/index.html>

Colorado Climate Center

Colorado State University

- Data and Power Point Presentations available for downloading
- <http://ccc.atmos.colostate.edu>
click on “Drought”
then click on “Presentations”